UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ARIZONA TUCSON FIELD OFFICE

EA#:AZ-420-2005-026

Project name: Andrada Marble Quarry

BLM Contact Person: Bill Auby

Mine Contact Person: Doug Woolsey

Legal Description and Map Name:
The Andrada Marble Quarry is located in Township 17 South, Range 16 East, Section 21, Helvetia-Rosemont Mining District, Santa Rita Mountains of Pima County, Arizona. The area is covered by the Mt. Fagan 7.5' USGS quadrangle, and shown on Map 1.

The State of Arizona Lease is described as Special Use Permit No. 23-52457 and is located in the Northwest Quarter of the Northwest Quarter of Section 21, Township 17 South, Range 16 East, G&SR Meridian.

The Haul Road Right of Way: Lease No 18-99645 is located by metes and bound through the West Half of Section 16, Township 17 South, Range 16 East, and by metes and bounds through the Northeast Quarter of the Northwest Quarter of the Northwest Quarter of Section 21, Township 17 South, Range 16 East, Gila & Salt River Meridian as identified on the Mount Fagan, Arizona, 7.5 Minute USGS Quadrangle Map (1996).

I. INTRODUCTION

Background:
The Andrada Quarry is located approximately 25 miles southeast of Tucson, Arizona on the northern region of the Santa Rita Mountains. The elevation within the Quarry ranges from 3720 to 3900 feet. It is located 4 miles due north of Mt. Fagan.

The quarry has been in operation for over 40 years and has produced a variety of high grade calcium carbonate products that have been utilized in the construction, paint, paper, and landscaping industries. The area is underlain by the Escabrosa limestone and has been mined and exposed by numerous pits, quarries, drill holes, and exploration trenches.

The Need for the Proposal:
This Environmental Assessment (EA) has been prepared pursuant to section 102(2)(C) of NEPA and in accordance with 40 CFR 1508.9 to determine whether an Environmental Impact Statement (EIS) is necessary. Section 102(2)(C) requires consideration of potential environmental impacts of a proposed action in an EIS, if that action is a “major Federal action significantly affecting the quality of the human environment.” When an agency issues a Decision Record Finding Of No Significant Impact (DR/FONSI), based on the EA, finding that it is not necessary to prepare an EIS

before undertaking the proposed action, that decision will be deemed to be in compliance with section 102(2)(C) of NEPA if the record demonstrates that the agency has considered all relevant matters of environmental concern, taken a “hard look” at potential environmental impacts, and made a convincing case that any potentially significant impact will be reduced to insignificance by imposing appropriate mitigation measures.

According to the definition in section 1508.9, an environmental assessment:

(a) Means a concise public document for which a Federal agency is responsible that serves to:
    (1) Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
    (2) Aid an agency's compliance with the Act when no environmental impact statement is necessary.
    (3) Facilitate preparation of a statement when one is necessary.

(b) Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

Conformance with Land Use Plan:
The proposed action is subject to the *Phoenix Resource Management Plan (RMP)*, approved September 1989. This proposed action has been reviewed to determine if it conforms to the land use plan terms and conditions as required by 43 CFR 1610.5.

Relationship to Statutes, Regulations or Other Plans or Policies:
The BLM decision only authorizes use of BLM land. Use of non-BLM land (National Forest, State Trust land. private land) is subject to the agency or private landowners' permission. Public lands in the area are subject to the current *Threatened & Endangered species* protocol and the *Arizona Standards for Rangeland Health and Guidelines for Grazing Administration*, approved June 1999.

II. THE PROPOSED ACTION AND ALTERNATIVES

Description of the Proposed Action: The Proposed action is described in the *Plan Of Operations for Andrada Quarry*. Please refer to that document for a full description.

No Action Alternative: Theno action alternative would consist of leaving the abandoned surface excavation pit and the surrounding mining operation as is.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES:

A. CRITICAL ELEMENTS NOT AFFECTED

The following critical elements are not affected by the proposed action or alternatives because they do not occur in the proposed use area, or because of the nature of the

proposed action:

1. Areas of Critical Environmental Concern: The proposed action is not within an ACEC according to “az_acec” vector digital data published by Arizona State Office, Engineering & Mapping Sciences Group, Jackson C. Johnson (10/28/1999). **This element does not apply.**

2. Threatened and Endangered Species: Congress passed the Endangered Species Preservation Act in 1966. This law allowed listing of only native animal species as endangered and provided limited means for the protection of species so listed. The Departments of Interior, Agriculture, and Defense were to seek to protect listed species, and insofar as consistent with their primary purposes, preserve the habitats of such species. Land acquisition for protection of endangered species was also authorized. The Endangered Species Conservation Act of 1969 was passed to provide additional protection to species in danger of "worldwide extinction". Import of such species was prohibited, as was their subsequent sale within the U.S. This Act called for an international ministerial meeting to adopt a convention on the conservation of endangered species. The Endangered Species Act of 1973 served to consolidate and strengthen the provisions of its predecessors.

One of the principal provisions of the 1973 Act (Section 7) requires all Federal agencies to undertake programs for the conservation of endangered and threatened species, and prohibits from authorization, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat”.

A biological evaluation of the area was conducted by Phil Jenkins of Southern Arizona Botany (SAB). Mr. Jenkins reported that no remarkable grasses or herbaceous plants were observed, and noted only the presence of typical, common species. The site is within the range and of suitable habitat for two protected cacti, the Needle-spined Pineapple Cactus and the Pima Pineapple Cactus. Neither species was found on site.

A cultural resources inventory consisting of a Class I (records search and literature review) and Class III (100% coverage, pedestrian, non-collection) surveys was completed by the staff of Cultural & Environmental Systems, Inc. (C&ES) between April 30 and May 10, 2004. **According to their reports, C&ES and SAB found no evidence of threatened or endangered species in the proposed project area.**

3. Cultural Resources: Cultural resources are protected under several Federal laws. These laws were enacted to ensure consideration of historic values and to protect significant resources from destruction or theft. The major laws include: the National Historic Preservation Act (NHPA), Archaeological Resources Protection Act (ARPA), the Native American Graves Protection and Repatriation Act (NAGPRA), and the American Indian Religious Freedom Act of 1978 (AIRFA).

A cultural resources inventory consisting of a Class I (records search and literature review) and Class III (100% coverage, pedestrian, non-collection) surveys was

completed by the staff of Cultural & Environmental Systems, Inc. (C&ES) between April 30 and May 10, 2004. **According to their report, C&ES found no evidence of cultural resources in the proposed project area.**

4. Native American Religious Concerns: Past, present, and reasonably foreseeable activities in the region may result in a cumulative impact to resources of importance to Native Americans. The need to consider these potential impacts is addressed in the Archaeological Resources Protection Act, the National Historic Preservation Act, the American Indian Religious Freedom Act, the Native American Graves Protection and Repatriation Act, and Executive Order 13007.

A cultural resources inventory consisting of a Class I (records search and literature review) and Class III (100% coverage, pedestrian, non-collection) surveys was completed by the staff of Cultural & Environmental Systems, Inc. (C&ES) between April 30 and May 10, 2004. **According to their report, C&ES found no native American religious concerns in the proposed project area.**

5. Wild and Scenic Rivers: Congress passed the Wild and Scenic Rivers Act to preserve selected rivers from the dams and developments associated with many of the nation's waterways. The Act provides a number of important measures to protect and enhance the values for which rivers are added to the National Wild and Scenic Rivers System. Section 7 of the Act directs federal agencies to protect the free-flowing condition and other values of designated rivers and congressionally authorized study rivers. Implementation of Section 7 requires development of rigorous and consistent interagency evaluation procedures to protect river resources. Through the language of this section, Congress expressed the clear intent to protect river values from the harmful effects of water resources projects.

In Arizona, the Salt River and the San Francisco River were congressionally authorized study rivers. In 1982, the recommendation was made to Congress not to designate them as Wild and Scenic Rivers. The Verde River is a designated Wild and Scenic River, and is the only one in Arizona. **No part of the project impacts a Wild and Scenic River, a congressionally authorized study river, or water resources below, above or on a stream tributary to a designated river or congressionally authorized study river.**

6. National Energy Policy: The National Energy Policy requires an evaluation of access limitations to Federal lands in order to increase renewable energy production from sources such as biomass, wind, geothermal, and solar. In addition to renewable energy, and examination of land status and lease stipulation impediments to Federal oil and gas leasing. **The Proposed Action is not an energy exploration or development project and has no impact on potential oil and gas exploration and development, as the area is generally unsuitable for those actions. This policy does not apply to this project.**

7. Wetlands/Riparian Zones: Wetlands are protected under the Clean Water Act and different criteria are used by agencies to classify wetlands to reflect variation in statutory protection and management objectives. The US Army Corps of Engineers (USACE) has primary authority under Section 404 of the Clean Water Act for protection of "jurisdictional" wetlands - those that meet strict regulatory criteria for soil type, water dependent plant species, and period of saturated soils or inundation. The U.S. Fish and Wildlife Service (FWS) uses a broader definition of wetlands than the USACE for mapping wetlands. Riparian zones are more likely to be included in the wetland classification used by the FWS. State-by-state mapping was performed in the 1980's for the National Wetlands Inventory (NWI) project using aerial photographs shot in the summer from 1980 through 1986 and limited field verification. Five major categories of wetlands were identified:

- Wetlands less than 10 acres - a range of small and diverse wetlands such as vegetated springs and seeps, seasonally flooded vegetated wetlands, temporarily flooded unvegetated flats, and permanently flooded ponds. The size of individual wetlands could not be determined.
- Wetlands between 10 and 40 acres - the same types as the smaller size category of wetlands.
- Wetlands greater than 40 acres - classified based on vegetation or, if unvegetated, based on substrate. The total number of acres for these types was determined.
- Wetland/upland complexes - comprises several small wetlands too close to map individually.
- Linear wetlands (miles) - unvegetated, intermittent streambeds or woody or emergent wetlands in stream course or drainages.

No identified wetlands or riparian zones are within impact from the proposed project and, as such, this element does not apply.

8. Prime Farmland: The Farmland Policy Protection Act (FPPA) is intended to minimize Federal Programs (including technical or financial assistance) contribution to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It assures that - to the extent possible - Federal programs and funded activities are administered to be compatible with state, local government units, and private programs and policies to protect farmland.

For the purpose of the FPPA, farmland includes prime farmland (prime soil characteristics), unique farmland (high value specialty crops), and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. **The proposed project is not located on land that is currently farmed or on land that could be farmed, and this element does not apply.**

9. Environmental Justice: EPA defines Environmental Justice (EJ) as the fair treatment and meaningful involvement of all people regardless of race, color, national

origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including a racial, ethnic, or a socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. **The Proposed Action does not unfairly or disproportionably affect minority or low income populations.**

10. Wilderness: Wilderness is designated by Congress on federal public lands - National Parks, Forests, and Wildlife Refuges, and Bureau of Land Management lands - and is the highest form of protection for federal lands. No roads or permanent structures are allowed in Wilderness, nor activities like logging, (most) mining, or most vehicular traffic. Activities currently permitted on lands with the Wilderness designation include:

- Scientific research and nature study
- Hunting (except in national park wilderness) and fishing
- Hiking, backpacking, and camping
- Outfitting and guiding · Horseback riding and pack trips
- Wheelchairs (including certain motorized wheelchairs)
- Livestock grazing and related facilities, where previously established
- Control of fire, and insect and disease outbreaks
- Float trips, canoeing, kayaking
- Mining on pre-existing mining claims
- Continued used of tracts of private or state land that may be within the boundaries of some wilderness areas, with reasonable access

There is no designated wilderness area on the property or on the access roads to the property.

11. Floodplain: Pima County regulates all unincorporated areas lying within the 100-year floodplain, to evaluate and control the risk of possible flood damages. The 100-year floodplain is defined as the area adjoining a watercourse that would be covered by water during a flood event having a 1 out of 100 chance of occurring in any given year. The project is proposed at an elevation of 3900 feet ASL, and well above any floodplain. **This element is not affected.**

B. CRITICAL ELEMENTS POTENTIALLY AFFECTED

The following critical elements are or could be affected by the Proposed Alternative. The environmental impacts and controls used to make these impacts insignificant are discussed here.

1. Air Quality: Air quality permit number 8559 was issued to WR Henderson AZ Properties by Pima County Air Quality Management on April 28, 2004, covering the period from May 15, 2004 to May 14, 2005. This permit covers earthmoving, trenching,

and road construction.

Impacts of the Proposed Action: Impacts of the Proposed Action on air quality would be from dust release or equipment (rolling stock) emissions. All equipment will have current pollution controls as required by the EPA during manufacture. Water and organic suppressants will be used to control dust. A foam suppressant for blasting areas is currently under investigation. Post-extraction processing will be conducted indoors with indoor dust control. With dust control measures, this impact will not be significant.

Impacts of the No Action Alternative: The No Action alternative will not have a significant effect on air quality.

2. Wastes, Hazardous or Solid: Solid wastes, including hazardous wastes, are regulated by the *Resource Conservation and Recovery Act (RCRA)*. Hazardous waste comes in many shapes and forms. RCRA tightly regulates all hazardous waste from "cradle to grave." RCRA also controls garbage and industrial waste. Common garbage is municipal waste, which consists mainly of paper, yard trimmings, glass, and other materials. Industrial waste is process waste that comes from a broad range of operations. Other regulated wastes include waste oil and tires.

Impacts of the Proposed Action: Business administrative functions will generate approximately one cubic yard of municipal waste per week; consisting of office and lunchroom waste. This waste will be removed by an approved waste hauling company and transferred to an approved municipal landfill. The material is processed by simple crushing. No chemical processes are used in the mining or processing of the material, and no by-product is formed or accumulated. Off-specification material will be returned to the mine site as reclaim fill. Small quantities of hazardous waste will be held on-site until such time as they may be disposed of properly. Hazardous waste that is expected to be generated is limited to approximately twenty pounds per year of cleaning and maintenance chemicals. This is about the same as an average household. Waste tires and waste oil will be taken off site by the service company and disposed of through approved methods.

Impacts of the No Action Alternative: The No Action alternative will not have a significant effect on solid and hazardous waste generation.

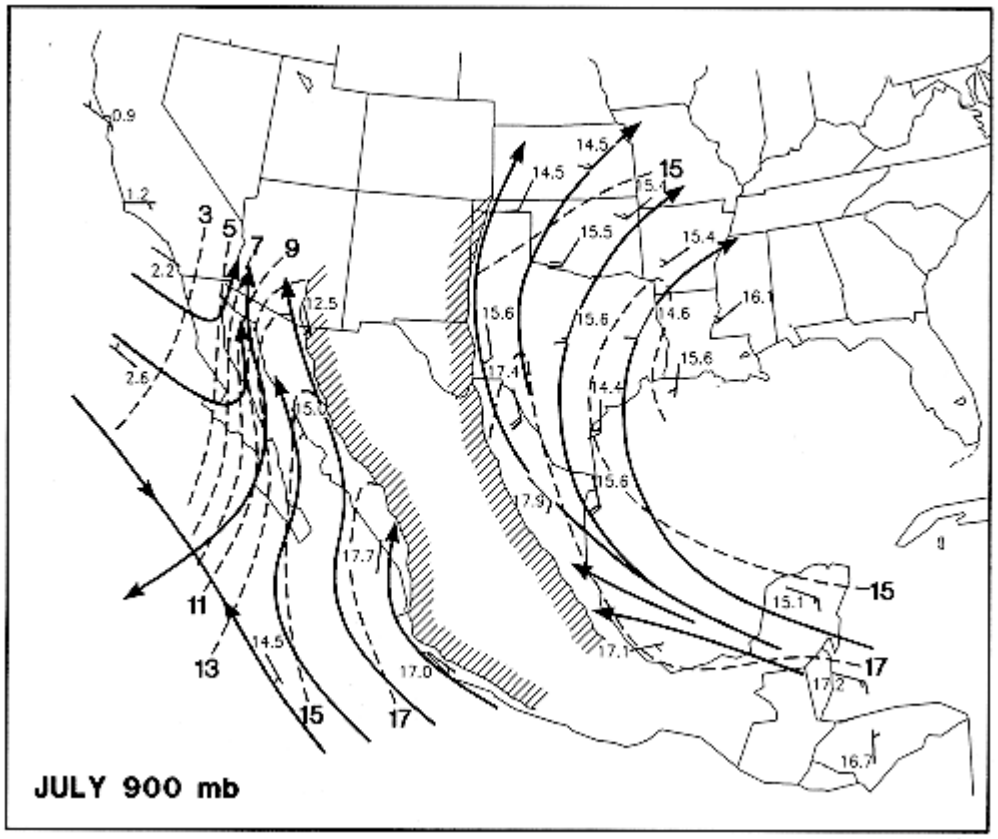
3. Water Quality, Drinking or Ground: Several State and Federal laws are designed to protect water quality. The Clean Water Act and the Arizona Environmental Quality Act are both affected by this project. Section 404 of the Clean Water Act prohibits any dredging or filling of jurisdictional waterways without a permit from the US Army Corps of Engineers.

The National Pollutant Discharge Elimination System (NPDES) stormwater program. requires operators of construction activities disturbing more than 1 ac. and 11 categories of industrial activities to obtain permit coverage implement stormwater discharge management practices, or best management practices (BMPs).

The Arizona Aquifer Protection Program requires a permit to discharge water other than rain water to the groundwater.

Impacts of the Proposed Action: On October 18, 2004, the Corps of Engineers recorded a decision of jurisdictional delineation, citing that the proposed area did not contain jurisdictional waterways. The climate is a semi-arid desert. It is very difficult for low-level coastal moisture to reach above 3000 feet (hatched area below).

Stormwater impacts will be minimal and will be controlled. Very little rain reaches the area, but storms can bring enough rain to cause release from the property. Annual rainfall is 12 inches, with 60% to 70% of the annual total occurring in the months of July, August, and September.



Controls and BMPs are outlined in the *Stormwater Pollution Prevention Plan*. Please refer to that document for more detail.

No systems to discharge to groundwater will be used on site. The abandoned pit has been intermingling contents with a perched aquifer underneath the proposed area. This will be filled with inert materials to reclaim the mine at a later date.

Dust control at the previous operation was estimated to use one million gallons of water per year. Ground Water Site Index (GWSI) wells used to track water levels were studied over a two mile radius for years 1972-2005. Mine operations do not seem to have an effect on water levels, although recent population increases and a severe drought have had a significant effect. To help conserve water, organic suppressants such as lignin sulfonate, latex, soybean extract, or gel stabilization will be used to reduce water use for dust control. Water use will be reduced to approximately 350,000 gallons per year. This is the same amount of water required by a family of five people.

Impacts of the No Action Alternative: If no controls are applied to the project area, the area will remain exempt from stormwater laws and will continue to release fine materials from the abandoned mining areas. The abandoned pit will continue to intermingle with groundwater, and threaten water quality in the event that the water in the pit becomes contaminated.

4. Noxious Weeds: On February 3, 1999, Executive Order 13112 was signed, requiring Federal agencies whose actions may affect the status of invasive species to use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species.

Impacts of the Proposed Action: Although highly unlikely, the Proposed Action could have a minor impact if seeds from noxious weeds are transported by vehicle chassis or clothing. Any weeds that can germinate in the area will be removed immediately as part of a weed and fire fuel control strategy.

Impacts of the No Action Alternative: The No Action alternative is more likely to have a net impact, as seed transferred by grazing or wind will be more likely to travel into the area, and the lack of traffic or weed controls will allow weeds to spread.

5. Noise Pollution: Blasting will be periodically required at the Andrada Quarry. W.R. Henderson has developed a blasting plan that will allow for safe quarry operations that will not significantly impact nearby residences. The reader is encouraged to view Attachment H of the Andrada Quarry Plan of Operations to see this blasting plan. A single residence lies within 1450 ft of the proposed quarry. Most blasting will be done 1500 to 2300 ft from this residence. The next nearest residence is 2900 ft from the proposed quarry. According to the plan the maximum peak particle velocity allowed will be 1.92 inches per second which is below the safe blasting criterion for residential structures recommended by the U.S. Bureau of Mines. For a more detailed discussion of blasting and how W.R. Henderson will mitigate impacts, the reader is encouraged to read pages 26 through 34 of the Andrada Quarry Plan of Operations.

Even when blast vibration levels are far below the legal limit, highly perceptible vibration can be experienced inside nearby residences. These effects can be generated by ground vibration or air blast acting separately or together, and can last from one to three seconds or more depending upon the distance from the blast, geologic influences and other factors.

Despite the sometimes startling effects in residences within 1000 feet of the blast, there is absolutely no correlation between how a blast "feels" and it's potential for causing structural damage to a home. In fact, cultural stresses (e.g., doors slamming, kids jumping, people ascending or descending stairs) and natural stresses (e.g., sunlight, wind, rain, temperature and humidity fluctuations and changes in soil moisture) place far greater stresses on a home than legal blast vibrations.

> ***Impacts of the Proposed Action:*** Blasting will be conducted on site within legal limits of particle velocity and sound (decibel) levels for impulsive sound for the protection of nearby structures and workers. The nearest residence is 1450 feet from the blast area, and will not be substantially affected by blasting.
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> ***Impacts of the No Action Alternative:*** There will be no impacts from noise under the no action alternative.

6. Socioeconomic Impacts: Property values and employment are affected by business and industry that locates in any area. Employment is affected by mine operation as well as new home construction and retail services. There has been no demonstrated decrease in property values due to nearby mining operations in Pima County.

> ***Impacts of the Proposed Action:*** Although mining typically increases both property values and employment, the proposed action will have a minimal effect on both, considering the size of the proposed operation. The proposed operation will not cause a decrease in property values.

Impacts of the No Action Alternative: The No Action alternative will have a small negative effect on employment, property values, and business development.

7. Visual Impacts: The Andrada Quarry contains many features from past mining activity including a pit, waste piles, and structures. The topography screens some of the past disturbance but much of it is visible from certain stretches of Sahuarita Road and Wentworth Road.

Impacts of the Proposed Action: Renewed mining will create additional disturbance of bright white limestone rock which will be visible from some stretches of Sahuarita and Wentworth roads. This will result in only a small change in the existing view shed. The local topography will continue to shield the site from most nearby residences. In the long term, the site will be reclaimed to a more visually appealing condition. The reader is encouraged to look at the Plan of Operations, page 36, for further discussion on visual impact.

Impacts of the No Action Alternative: There will be no change from the existing environment.

8. Cumulative Impacts: Cumulative impacts are the impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40CFR1508.7)

Cumulative Impacts of the Proposed Action: The cumulative impacts of the proposed action would be to reclaim old mine areas for beneficial use by filling the pit with inert materials and off-specification mined materials. The proposed action will result in a total of 37 acres of disturbance to private and state land from proposed and past mining. The proposed area for mining will be reclaimed by smoothing the hill contours and opening up more of the area for grazing. The proposed area is too steep for grazing at this time. Haul traffic impacts will be controlled on site by stabilization of the one-mile haul road. Off-site traffic impacts, such as traffic on Wentworth Road, will be controlled in accordance with Pima County requirements.

Cumulative Impacts of the No Action Alternative: The No Action alternative has been considered. The No Action alternative would require expenditure of state funds to reclaim and maintain the abandoned mine. There would be a missed opportunity to realize the full range of economic and social benefits that

would result in the activation of the inactive Georgia Marble Mine.

Description of Mitigation Measures:

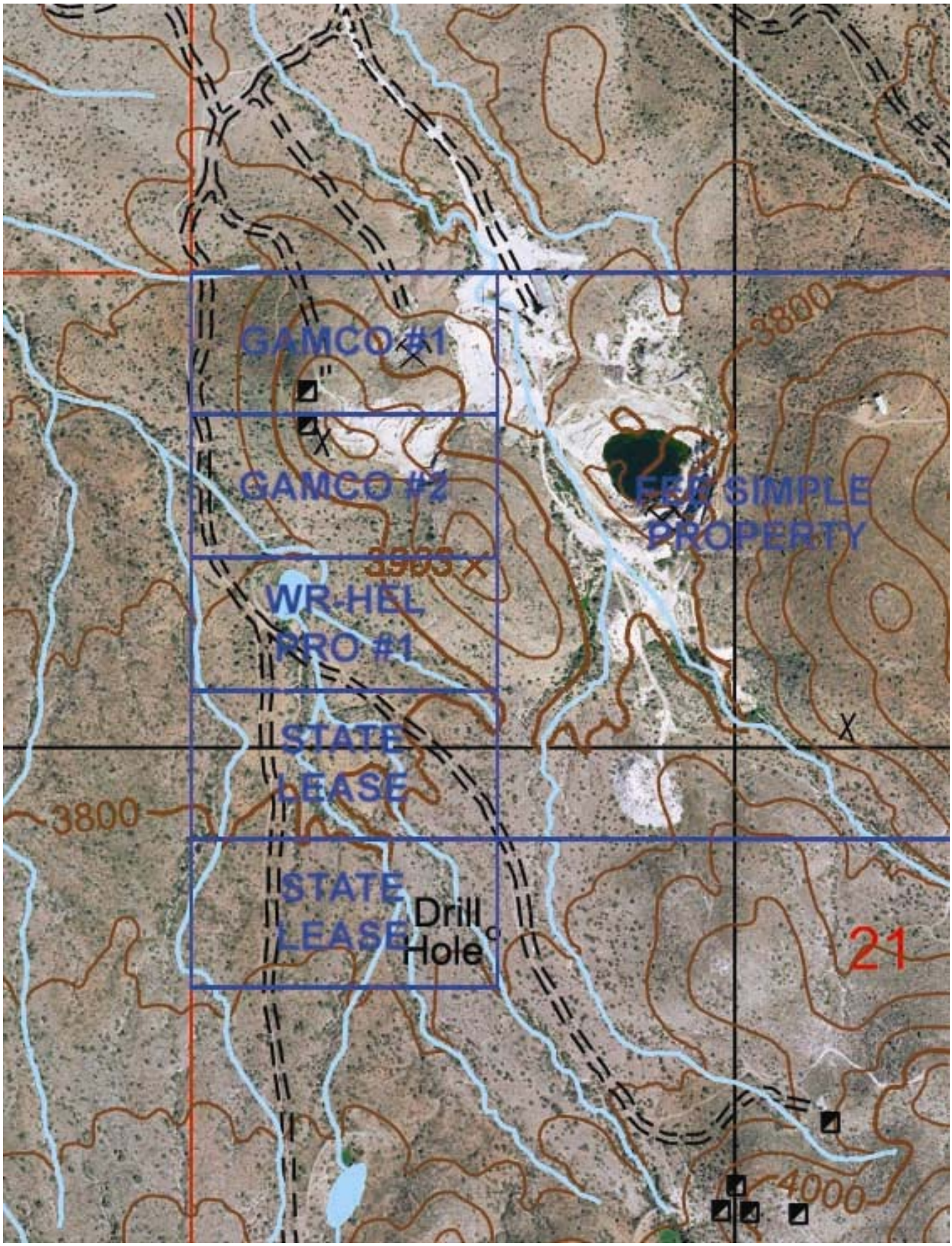
Proposed Action:

1. Pollution control equipment and watering will be used to control fugitive dust emissions.
2. Waste oil and used tires will be periodically removed from site.
3. The operator will comply with their Blasting Plan to keep peak particle velocity below the recommended limits of 2 inches per second.
4. The site will be reclaimed upon completion of project so the site is left in a more visually appealing condition.

No Action: No mitigation is anticipated.

Compliance and Area Monitoring:

BLM mineral specialist will conduct compliance inspections once a year as required under 43 CFR 3809.



Map 1: 7.5 Minute USGS Quadrangle Map with DOQQ photo overlay and operations plan for comparison. 1"=400